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ABSTRACT

The impact on an organization's capacity to respond inevitably to changing needs of the many variables affecting the organization is considered, along with a framework for developing innovations, especially in a time when colleges are facing a period of contraction. A contingency approach to the management of innovation focuses on the influence of situational variables in a particular organization. Using this approach, the emphasis shifts from a study of what happened following the implementation or attempted implementation of an innovation, to a proactive concern for the planning of the innovation from the point that a need for it was perceived. A systems model for the application of the contingency approach to manage innovation would involve four stages, requiring administrators to: develop/review performance criteria and identify performance gaps; identify potential innovations to overcome performance gaps and select preferred innovation; examine contingency relationships between system variables and selected innovation and develop the implementation strategy; and implement selected innovation and evaluate effects on organizational performance. In conclusion, the contingency approach to planning and managing organizational innovation takes into account the climate, the organizational characteristics, and the interrelationship between key variables and the organization's performance. (SW)

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A CONTINGENCY APPROACH TO THE MANAGEMENT OF INNOVATION IN A CLIMATE OF CONTRACTION

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A Contingency Approach to the Management of Innovation in a Climate of Contraction

The management of organisations in the public sector, particularly institutions of higher education, will, for the most part, need to be carried out within a context of restraint, if not contraction, for the foreseeable future and this will pose many new challenges for administrators. This paper addresses the particular problem of identifying the impact of organisational variables on the capacity of organisations to develop innovative responses to the changing needs of their environment. A contingency model is presented which enables administrators to adopt a proactive approach to their task, analysing the potential impact of variables affecting their organisation upon the innovation process.

Coping with the conditions which accompanied growth and development provided the major challenge to public administrators in the 1960s and the early 1970s. In higher education this period was characterised by growth in enrolments and substantial increases in public expenditure.

By the latter part of the 1970s, several dramatic changes had taken place which presented new and different challenges to administrators in higher education. Students demonstrated their dissidence to social values displayed in the content and teaching of their programs and there was widespread concern among legislators at the escalating levels of public expenditure in education and other fields of social welfare.

When the changing scene was first perceived in higher education in Australia, several national conferences were convened to explore the emerging problems and to consider implications for the future. Their discussions generated a common theme - the need for more effective management.

At a conference held at the Australian National University in Canberra in July 1978, the Chairman of the Australian Tertiary Education Commission set the scenario for the future of Australian higher education in the concluding remarks of his keynote address:

> *It is clear that universities and colleges will, at least for a number of years, be operating under conditions in which student numbers and budgets will not be expanding. This may not be a temporary phenomenon and the health of the institutions will depend on their capacity to maintain some flexibility and capacity to innovate under stationary conditions.(1)*

But the climate for Australian higher education in the 1980s is not unique, nor are the concerns to ensure greater institutional innovation. Lewis Mahew has remarked on the position in the United States:

> *It is almost impossible to pick up a book or article dealing with higher education in the United States since 1970 without finding analysis of its difficulties and suggestions for restoring and ensuring institutional vitality.(2)*

It seems clear, management in colleges and univerities for the foreseeable future will, for the most part, be carried out within a context of contraction and this will pose many new challenges for administrators. Several stand out: maintaining the viability of institutions with the threat of government intervention to achieve greater rationalisation of higher education; maintaining the quality of institutions while coping with increasing costs and declining financial support; making more effective use of available resources; and developing innovative responses to the changing needs of institutional environments.

There are few studies of the effects of contraction on higher education and the limited writing in this area is mostly normative - suggesting what strategies institutions ought to take to mitigate the effects of declining funds or enrolments. Richman and Farmer, for example, offer a range of suggestions: that institutions should expand or offer programs that provide greater relevancy and quality to attract students and that enable students to prove themselves more attractive to employers; offer courses with more flexible attendance patterns; encourage open admission requirements and programs of lifelong learning; take the classroom off-campus, offering courses in plants, offices, hospitals; increase community service activities, establishing the institution as a cultural and information centre in the community.(3)

Bess has also addressed the problem of managing higher education in a situation of contraction. He recommends the institutionalisation of the community service mission in universities and colleges to improve the reputation and usefulness of institutions and increase their scope for gaining community and government support.(4)

Leslie and Miller developed a framework for encouraging innovation in higher education in a period of contraction.(5) They extrapolated to the higher education setting a model developed by the economist Joseph Schumpeter in 1934, which suggested five categories of innovations by which business firms may seek to gain a competitive edge over their rivals.(6) Their framework is shown in Figure 1.

SCHUMPETER - Business Firms	LESLIE & MILLER - Higher Education
1. Development of new products	1. Development of new courses, programs
2. New methods of production	2. Improving institutional productivity
3. Development of new markets	3. New sources of students
4. New productive factors	4. New sources of income
5. Reorganising & restructuring the enterprise	5. Reorganisation within, between, and among institutions

Figure 1
Framework for Developing Innovation

But these and many other innovations, suggested in the literature to cope with the problem of managing organisations in a situation of contraction, offer a prescription for what should be, with little recourse to what is, or how best to achieve such goals in a particular situation. The administrator needs to know the impact on a proposed innovation of the many variables affecting his organisation and what are appropriate strategies to initiate and implement a selected innovation. In short, the practising administrator needs more than prescriptions for change. He needs to know what effect the particular organisational characteristics and climate within his own institution will have on the initiation, acceptance and adoption of a proposed innovation.

The process of managing organisational change is widely discussed in the literature with a more scientific or systems approach being advocated by contemporary theorists as the way to cope with the planning and implementation of innovation and change. (7,8,9) A systems approach begins with an intellectual model of an ideal situation, to enable ideal thinking of what should be, to be treated objectively against what is. (10)

But modern organisation theorists caution against the assumption that a generalisable systems model can be developed for application in all settings. (11,12) They contend that a more fruitful approach is to adopt a concrete "situational" perspective, examining contingent systems relationships in particular organisational settings. (13,14,15) Kast and Rosenzweig point out that a contingency approach seeks to understand the inter-relationships between the organisation and its environment as well as between organisational subsystems, and to define patterns of relationships. They summarise the value of the contingency approach:

> *It emphasises the multivariate nature of organisations and attempts to understand how organisations operate under varying conditions and in specific circumstances. Contingency views are ultimately directed toward suggesting organisational designs and managerial systems most appropriate for specific situations. (16)*

Thus, a contingency approach to the management of the innovation process would focus on the influence of "situational" variables existing within the particular organisation or institution in which an innovation is proposed, for example, the openness of the institution to innovation, the management processes in the institution, the slack which may be utilised to search for and introduce new ideas, and the structure and climate of the institution in which innovations are to be diffused. (17)

Luthans highlights the proactive feature of the contingency approach. He articulates the functional relationships between independent and dependent organisation variables into a working framework of "if"/"then" relationships which demonstrate the propensity of a contingency model for developing feed-forward control, enabling organisational adjustments to be made *ex ante*, rather than observing only the outcomes, or what might have caused them, *ex post*. (18) Thus, in a contingency approach to the management of innovation, the emphasis shifts from a study of what happened following the implementation or attempted implementation of an innovation, to a proactive concern for the planning of the innovation from the point that a need for it was perceived.

A proactive focus not only provides a useful conceptual framework for the study of innovation, but has important practical implications for administrators. (19) Such an approach assumes particular significance in higher education in a time of contraction, when there are conflicting pressures within institutions, concerns for the maintenance of existing programs, and severe financial constraints. It has been suggested that innovation is more likely to become a victim of these circumstances. (20) The emphasis on forward planning of innovation under this approach, taking account of existing organisational variables and their interrelationships, reduces uncertainty for the administrator and potential organisational conflict.

A typical systems model for the application of the contingency approach to the management of organisational innovation would involve a four-stage process, illustrated in Figure 2.

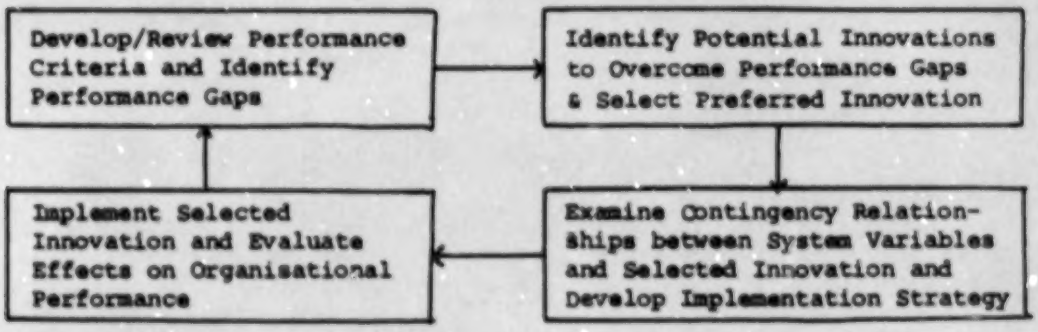
Develop/Review Performance Criteria and Identify Performance Gaps
Identify Potential Innovations to Overcome Performance Gaps & Select Preferred Innovation
Examine Contingency Relationships between System Variables and Selected Innovation and Develop Implementation Strategy
Implement Selected Innovation and Evaluate Effects on Organisational Performance

Figure 2
A Contingency Approach to Managing Organisational Innovation

The first stage would involve the development or review of organisational performance criteria and identification of performance gaps in the organisation; the second stage would involve the identification of potential innovations which could be expected to overcome the perceived gaps; the third stage of the model would involve examining the likely impact of organisational and situational variables on the potential innovations and the development of an implementation strategy for the selected innovation; the fourth stage would involve implementing the selected innovation and evaluating the results of the innovation on the organisation's performance.

Managing organisational innovation is clearly a complex undertaking, and innovations designed to increase an organisation's ability to cope with its changing environment can obviously have widespread ramifications for the organisation and its members. The important point is that the contingency approach to planning organisational innovation is designed to increase the administrator's sensitivity to the factors which must be considered in formulating proposals for organisational change. As Fuller has pointed out:

> *The planning of social organisations, including...academic institutions, involves the capacity to systematically and creatively design future services which are increasingly in harmony with human, individual and societal needs and priorities.(21)*

Luchans and Stewart have proposed a contingency model which utilises an open-systems paradigm to show relationships between different system variables and organisational performance.

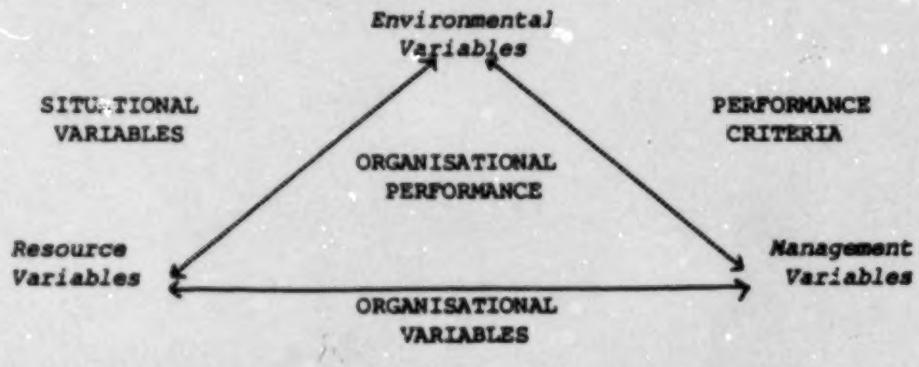

Figure 3
Contingency Model of the Organisation

The model identifies related system variables which are placed into a taxonomical hierarchy of primary, secondary, and tertiary levels. Primary system variables include: environmental, resource, and management variables. Secondary system variables derive from the interaction of subsets of the primary variables and include: situational variables,

organisational variables, and performance criteria. The tertiary system variables are generated by the interaction of secondary system variables and constituent primary system variables.

Although Luthans and Stewart's model does not offer the practising administrator a simple rule-of-thumb approach to the managerial tasks associated with initiating and implementing innovation, a feature of the model is that it provides a useful guideline to key system variables and their relationship to the organisation's performance. The literature, however, identifies the effects on the innovation process of the more significant organisational variables, such as structure, complexity, centralisation, formalisation, and so on, and provides evidence of the relationship between these variables and organisational performance. Similarly, the effect of situational variables, such as attitudes, values, and perceptions on innovations and organisation performance, is identified in the literature.

Performance Criteria. Most paradigms of innovation and change commence with the awareness of performance gaps in a system, which are determined by the organisation's decision makers in terms of performance criteria.(22) Performance gaps are assumed as having adverse effects on the organisation if they are not bridged or narrowed. They may arise from changes in either the organisation's internal or external environment, although theorists emphasise the importance of the organisation relating to the external environment to become aware of performance gaps and in seeking ideas to assist in bridging the gap.(23) But research indicates that, although ideas may be generated externally, few innovations are directly adopted from outside the organisation - they are evaluated and developed to suit the internal needs of the organisation.(24) Contingency theorists emphasise the need for flexibility in the organisation to enable anticipation of environmental variations and adjustment to them, but they also take cognizance of internal constraints upon the organisation's innovative potential, such as those presented by organisation variables.

Organisation Variables. Much of the contemporary research on innovation focuses on the influence of organisation variables. In relation to *organisation structure*, the literature indicates that the open, organic structure is more likely to facilitate the search for new ideas and is, therefore, more conducive to the initiation of innovation, whereas a more mechanistic or bureaucratic form is better suited to the implementation of innovations.(25,26)

In relation to *complexity*, the more diverse and complex organisation is likely to generate more ideas, information, and proposals for innovation, whereas a high level of complexity is likely to result in greater potential conflict, making implementation of innovation more difficult.(27)

Research on the effects of *formalisation* in the organisation, that is, the emphasis given to rules and procedures for carrying out the organisation's tasks, suggests that low formalisation is more appropriate for the initiation of innovation, but a higher degree of formalisation is more effective for the implementation of innovation.(28)

Studies of the relationship between *centralisation* - the locus of authority and decision making - and innovation, suggest the highly centralised organisation, which inhibits participation in decision making, is likely to reduce the scope for the generation of new ideas and for the initiation of innovation.(29,30) However, the more centralised organisation facilitates the implementation of innovation by reducing the opportunity for conflict and ambiguity.(31,32)

Research evidence suggests that *interpersonal relations* affect all phases of the innovation process.(33) At the initiation stage, the development of strong interpersonal relations provides additional information to the organisation's decision makers through informal networks, and helps to overcome stress that may arise from environmental uncertainty.(34) Interpersonal relationships also facilitate openness in dealing with emotional problems that may arise in organisational groups which may otherwise obstruct the implementation of innovations.(35)

The literature recognises that *organisational conflict* may affect all stages of the innovation process.(36) During the initiation stage conflict may arise concerning which innovative ideas should be accepted and preserved, while in the implementation stage, conflict may also arise about the process by which the innovation is to be integrated into the organisation's ongoing practice.

The influence of *professionalism* on specific phases of the innovation process is not widely researched, but there is evidence to suggest that a high level of professionalism positively influences both the initiation and implementation of innovation.(37)

The importance of *organisational slack* or unused resources in the organisation on innovation has been emphasised in the literature.(38) When an organisation has little slack it will have limited scope to innovate and will be reluctant to engage in risks.(39) The extent of organisational slack may also influence the type of innovation which will be adopted by an organisation. In the absence of slack resources, only low cost and low risk ventures will be likely to receive support by the organisation.(40)

Several studies have pointed to the importance of the *communication* process in innovation. Top management is alerted to organisational problems and performance gaps through the communications network, but this may also serve to filter out certain information and inhibit innovation.(41,42) The effectiveness of the communication of innovations can also be a major factor determining the success of the implementation stage.(43)

It is apparent that many organisation variables - structure, complexity, formalisation, and centralisation - exercise a differential influence on the initiation and implementation stages of innovation. Other organisation variables - interpersonal relations, organisational conflict, professionalism, organisational slack, and communications - have consistant influence on all stages of the innovation process.

Situational Variables. The emphasis in the contingency model on situational variables influencing the organisation's overall system performance provides recognition for variables in the organisation which affect particular situations at particular times. Contingency theorists claim that the situational perspective gives the approach its essential practical relevance.

The literature suggests that *attitudes* influence both the initiation and implementation of innovation. (44) Where organisational members have a favourable attitude towards their job and a sense of job commitment, they are likely to be supportive of the search for new ideas and positively oriented towards innovation. (45,46) Attitudes expressed in the form of performance dissatisfaction, particularly by strategic decision makers, may also contribute to innovation. (47) Attitudes generated by social interactions may affect the adoption or rejection of innovations. (48)

Considerable evidence points to the importance of *values* placed on innovative behaviour, particularly by top management and strategic decision makers, in influencing innovation. (49) The literature indicates that the values of professionals and top management, and more especially, of organisational elites, are likely to stimulate the search for new ideas and innovations, and their support for new ideas is also likely to influence the implementation of innovation. (50,51)

The influence of *perceptions* in organisations upon innovation is not well researched, but it seems clear that there will most likely be resistance to an innovation which is perceived to be radical and to involve a significant reorientation of the organisation's subsystems, and conversely little resistance to an innovation which is perceived as involving only minor variation within the organisation. (52,53,54)

The influence of *age* on innovation has been examined from two aspects - age of the organisation, and the period in their position of strategic decision makers. (55,56) With increasing age an organisation is likely to become more bureaucratised and its subsystems more independent and resistant to both the initiation of new ideas and the implementation of innovation, because of its attendant implications of change in the status quo. Similarly, as the length of tenure of strategic organisational decision makers increases, the less likely will they be to seek the introduction of new ideas or engage in proposals which are perceived as risky and uncertain.

There are several underlying themes that emerge from the literature. Modern, complex organisations, such as universities and colleges, are dependent upon their relationship with their environment, not merely for the resources necessary for survival, but also for information regarding their performance and for new ideas to initiate innovations designed to improve their effectiveness. Institutions that are flexible in their internal structure, that are open to receive information regarding the effectiveness of their performance, that are controlled by strategic decision makers who value creative and innovative behaviour, and that have the necessary organisational slack to implement their ideas, are more likely to be able to respond to the changing demands of their environment.

Faced with the general climate of contraction in the public sector, particularly in higher education, institutions may organise themselves to be more sensitive to ideas and information from their environment, and may plan appropriate innovation strategies to increase their effectiveness.

From the point of view of the practising administrator, the contingency approach to planning and managing organisational innovation in this environment has intrinsic interest. It takes into account the particular climate in which the organisation is operating, the particular characteristics of the organisation that might affect a potential innovation, and the inter-relationship between key variables and the organisation's performance. But, for the administrator seeking to introduce managerial innovation in a climate of contraction, perhaps the most significant attribute of the contingency approach is that it considers managerial tasks from a forward-planning rather than reactive position.

REFERENCES

1. P.H. Karmel, "Higher Education in a Steady State." Keynote address, National Conference: Australian Tertiary Education in the Aftermath of Expansion, Australian National University, Canberra, July 13-13, 1978.

2. Lewis B. Mayhew, Surviving the Eighties (San Francisco: Jossey-Bass, 1980), p. 30.

3. B.M. Richman & R. M. Farmer, Leadership, Goals and Power in Higher Education (San Francisco, Jossey-Bass, 1974) p. 292.

4. J.I. Bess, "New Life for Faculty and Their Institutions," Journal of Higher Education 46.1 (May/June 1975), pp. 314-325.

5. L. L. Leslie & H. F. Miller Jr., Higher Education and the Steady State, ERIC Higher Education Research Report, No. 4, Washington, ERIC Clearinghouse on Higher Education, 1974, ED 091 065.

6. J. Schumpeter, The Theory of Economic Development, Cambridge (Mass) Harvard UP, 1936, p. 66.

7. Bruce Fuller, "A Framework for Academic Planning," Journal of Higher Education, 47:1 (January, 1976), pp. 65-77.

8. Robert R. Blake & Jane S. Mouton, "Breakthrough in Change and Innovation: Change by Design, Not by Default," Tomorrow's Organizations: Challenges and Strategies, eds. J.S. Jun & W. B. Storm (Illinois: Scott Foreman, 1973), p. 388.

9. Jack Lindquist, Strategies for Change, (Calif: Pacific Soundings Press 1978).

10. J. S. Jun & W. B. Storm, eds., Tomorrow's Organizations: Challenges and Strategies (Illinois: Scott Foreman, 1973).

11. Fremont E. Kast and James E. Rosenzweig, Organization and Management: A Systems Approach (New York: McGraw-Hill, 1974).

12. Jay W. Lorsch and Paul R. Lawrence, Studies in Organizational Design (Illinois: Irwin-Dorsey, 1970).

13. Fred Luthans, "Contingency Theory of Management: A Path Out of the Jungle," Emerging Concepts in Management, eds. Fred Luthans and Max S. Wortman, Jr. (New York: Macmillan, 1975), pp. 16-21.

14. Kast & Rosenzweig, op. cit.

15. Lorsch & Lawrence, op. cit.

16. Fremont E. Kast and James E. Rosenzweigh, "General Systems Theory: Applications for Organization and Management," Academy of Management Journal, 15:4 (1972), p. 459.

17. Fred Luthans, op. cit.

18. Fred Luthans, Introduction to Management: A Contingency Approach, (New York: McGraw-Hill, 1976), pp. 47-49.

19. Harold Koontz & Robert W. Bradspies, "Managing Through Feed-forward Control," Business Horizons, 1513 (June, 1972), pp. 25-36

20. Naomi E. McIntosh, "Evaluation and Institutional Research: Aids to Decision Making & Innovation," International Journal of Institutional Management in Higher Education, 1:2, (October, 1977), p. 119.

21. Bruce Fuller, op. cit.

22. Gerald Zaltman, Robert Duncan, and John Holbek, Innovations and Organizations (U.S.A.: John Wiley and Sons, 1973).

23. James Utterback, "The Process of Technological Innovation Within the Firm," Academy of Management Journal, 14:1971, p. 81.

24. S. Myers and D. G. Marquis, Successful Industrial Innovations (National Science Foundation: NSF 69-17, 1969).

25. Thomas Burns and G. Stalker, The Management of Innovation, (London: Tavistock, 1966).

26. Herbert A. Shepard, "Innovation-Resisting and Innovation Producing Organizations," Journal of Business, 40:4, 1967, pp. 470-477.

27. Zaltman, Duncan and Holbek, op. cit., p. 154.

28. Shepard, op. cit., p. 474.

29. Zaltman, Duncan and Holbek, op. cit., pp. 143-146.

30. Victor A. Thompson, Bureaucracy and Innovation, (Alabama: University of Alabama Press, 1969).

31. Shepard, op. cit.

32. Peter Blau and W. Richard Scott, Formal Organizations: A Comparative Approach, (San Francisco: Chandler Publishing, 1962).

33. Chris Argyris, Interpersonal Competence and Organizational Effectiveness (Homewood, Ill.: Irwin-Dorsey, 1962).

34. David W. Conrath, "The Role of the Informal Organization in Decision Making on Research and Development," IEEE Transactions on Engineering Management, EM-15:3, 1968, pp. 109-119.

35. Chris Argyris, Organization and Innovation (Homewood, Ill.: Dorsey Press, 1965), p. 2.

36. C. Brooklyn Derr, "Conflict Resolution in Organizations: Views from the Field of Educational Administration," Public Administrative Review, XXXII:1972, pp. 495-502.

37. Jon L. Pierce and Andre L. Delbecq, "Organization Structure, Individual Attitudes and Innovation," Academy of Management Review January, 1977, pp. 27-37.

38. Harold Guetzkow, "The Creative Person in Organizations," The Creative Organization, ed. Gary A. Steiner (Chicago: The University of Chicago Press, 1965), pp. 35-49.

39. R. M. Cyert and J. G. March, A Behavioural Theory of the Firm (Englewood Cliffs, N. J.: Prentice Hall, 1963), pp. 278-279.

40. K. E. Knight, "A Descriptive Model of the Intra-Firm Innovation Process," The Journal of Business, 40:1967, p. 485.

41. Guetzkow, op. cit.

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42. Matthew B. Miles, "Planned Change and Organizational Health: Figure and Ground," **Organizations and Human Behavior**, eds., Fred D. Carver and Thomas J. Sergiovanni (New York: McGraw-Hill, 1969), pp. 375-391.

43. Neal Gross, Joseph Giaquinta, and Marilyn Bernstein, **Implementing Organizational Innovations: A Sociological Analysis of Planned Educational Change** (New York: Basic Books, 1971).

44. Pierce and Delbecq, op. cit., p.33.

45. Jerald Hage and Michael Aiken, **Social Change in Complex Organizations** (New York: Random House, 1970).

46. Thompson, op. cit.

47. James March and Herbert Simon, **Organizations** (New York: Wiley, 1958).

48. Herbert C. Kelman and Donald P. Warwick, "Bridging Micro and Macro Approaches to Social Change: A Social-psychological Perspective," **Processes and Phenomena of Social Change**, ed., G. Zaltman (New York: Wiley Interscience, 1973).

49. L. Cummings, "Organizational Climates for Creativity," **Academy of Management Journal**, 8:1965, pp. 220-227.

50. Robert H. Maier and Edward W. Weidner, "Creating and Encouraging an Innovative Academic Environment in Higher Education," 4:1975, p. 68.

51. Jerald Hage and Robert Dewar, "Elite Values Versus Organizational Structure in Predicting Innovation," **Administrative Science Quarterly**, 18:3, 1973, pp. 279-290.

52. Zaltman, Duncan and Holbek, op. cit.

53. Knight, op cit.

54. R. Norman, "Organizational Innovativeness: Product Variation and Reorientation," **Administrative Science Quarterly**, 16:2, 1971, pp. 203-215.

55. Daniel E. Griffiths, "Administrative Theory and Change in Organizations," **Organizations and Human Behavior**, eds. Fred D. Carver and Thomas J. Sergiovanni (New York: McGraw-Hill, 1969), pp. 368-374.

56. Pierce and Delbecq, op. cit.

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